DOCUMENT RESUME

ED 339 530 PS 020 147

TITLE	Child Development Project: Description of Program.
INSTITUTION	Developmental Studies Center, San Ramon, CA.
SPONS AGENCY	William and Flora Hewlett Foundation, Palo Alto, Calif.
PUB DATE	88
NOTE	23p.; For related documents, see ED 308 974 and PS 020 148-149.
PUB TYPE	Reports - Evaluative/Feasibility (142) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Democratic Values; Elementary Education; *Elementary School Students; Ethical Instruction; Interpersonal Competence; Moral Development; Peer Relationship; *Program Evaluation; *Program Implementation; *Prosocial Behavior; *Social Development; *Socialization; Student Attitudes
IDENTIFIERS	California; *Child Development Project; Social Problem Solving

ABSTRACT

The Child Development Project (CDP) was designed to enhance the development of prosocial characteristics in school children in kindergarten through sixth grade. It was developed and evaluated in a school district (San Ramon) in the San Francisco, California area. The features of the program include: (1) an instructional approach that enhances children's helping activities, prosocial values, social understanding, discipline, and cooperative learning; (2) a series of staff development workshops; and (3) comprehensive curricula. The program was evaluated by means of a comparison of four elementary grades in schools that had the program and schools that did not. Classroom observations measured program implementation; interviews and questionnaires measured student attitudes and motives; and observations and group tasks measured children's interpersonal behavior. Results indicated that the five components of the program's instructional approach were used significantly more often in the schools that had the program. Children in program schools showed greater individual autonomy and participated in classroom decision making more often than did children in nonprogram schools. Children in program schools also exhibited more prosocial behavior, better social problem-solving skills, and greater endorsement of democratic values. A reference list of 37 items is provided. (BC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

PS

ED339530

CHILD DEVELOPMENT PROJECT

DESCRIPTION OF PROGRAM

Goals

The program's major goal is to enhance the development of "prosocial" characteristics in children; as reflected in attitudes, motives and behaviors that reflect consideration of others' needs and feelings, concern for others' welfare, and a willingness to "balance" one's own legitimate needs and desires with those of others in situations where they conflict.

Purposes and Needs Addressed

The impetus for the Child Development Project arose from concerns expressed in the late 1970's over an excessive concern with the self and a decline in social responsibility and concern for others in American society (e.g., Coles, 1977; Lasch, 1978). After revieving the theoretical and empirical literature on the antecedents of positive social behavior (e.g., Hoffman, 1978; Mussen & Eisenberg-Berg, 1977; Rushton, 1980; Staub, 1978, 1979), we felt that a comprehensive school intervention program, delivered primarily by classroom teachers but with consistent school-wide practices and parent support, and continued over a number of years, was both feasible and had a good chance of producing widespread and longstanding changes in children's social attitudes, motives, and behaviors. Consequently, a large demonstration project was undertaken to develop and rigorously evaluate such a program in elementary schools over a period of several years (Brown & Solomon, 1983; Solomon et al., 1985).

Intended Audience

The program was initially implemented in a suburban, middle-class school district. It is currently, however, being expanded to a much more heterogeneous, urban school district. Implementation in this district is being carefully monitored to determine what, if any, changes are necessary in the program to meet differing needs and circumstances. We believe that the program can be used successfully with students of any socio- economic status. Program materials developed thus far are suitable for students in grades K through 6.

Background, Foundation, and Theoretical Framework

Our approach to sociomoral development is based on the assumption that children are intrinsically motivated to understand the social world and to form caring and mutually-beneficial relationships with others, while also recognizing that they are often self-centered and insensitive to others' needs and feelings. Stated somewhat differently, we assume that children have two basic motivational tendencies, one of which involves individualistic needs for personal achievement and self-determination, and the other of which involves needs for establishing positive relationships with others and participating productively in social groups (cf., Bakan, 1966). The primary goal of socialization in our view is to help children "balance" or "blend" these two, sometimes conflicting tendencies (cf., Perloff, 1987; Spence, 1985). Young

PS 020147

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Daniel Solomon
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

children in particular frequently lack the skill, knowledge, or self-control to achieve this integration of egoistic and prosocial concerns on their own, and it often will be necessary for adults to exercise direct or indirect control over their behavior. At the same time, we believe that socialization is most likely to be effective when adult control is exercised in the context of a caring and supportive adult-child relationship, and when it is combined with clear communication of prosocial values, and the provision of guidance as children strive to understand the social world, develop self-control and a sense of their own competence and mastery, and form positive relationships with their peers. Consequently, the CDP intervention program combines elements of both traditional, adult-oriented character education programs and more recent peer-oriented approaches to sociomoral development derived from cognitive-developmental theory. In this respect, as well as in terms of the specific practices described below, our program is quite similar to Lickona's (in press) approach to moral education.

The CDP program attempts to create a caring community in the classroom based on a shared commitment to prosocial, democratic values. However, while collaborative interactions with peers and group discussion and decision-making are important parts of our intervention program, our overall aim is not the enhancement of social understanding or moral reasoning *per se*, but rather the development of prosocial character. Our concern, like that of Bandura (in press) and Hoffman (in press), is with moral *conduct*, and while reasoning processes often may be involved in moral action, we believe that affect, particularly feelings of concern for others, provides the basic motivation for prosocial behavior. Similarly, like both Bandura and Hoffman, we do not regard justice as the ultimate moral principle, but believe that justice must be tempered with compassion, and feel that the aim of moral education should be the development of a moral system that integrates principles of justice and caring (cf., Gilligan, 1982; Noddings, 1984). It is with respect to establishing and maintaining such positive affective relationships that efforts to create a sense of community in the classroom play a necessary role in our program (cf., Lickona, in press).

Within this general milieu of a caring and supportive environment, the CDP program attempts to promote the development of prosocial behaviors by providing children with experiences that should help them to understand and internalize values of fairness, concern and respect for others, and social responsibility. These consist of numerous opportunities to: (a) collaborate with others in the pursuit of common goals; (b) provide meaningful help to others, and to receive help when it is needed; (c) discuss and reflect upon the experiences of others in order to gain an understanding and appreciation of others' feelings, needs, and perspectives; (d) discuss and reflect upon their own behavior and the behavior of others as it relates to prosocial values; (e) develop and practice important social skills and competencies; and (f) exercise autonomy, participate in decision-making about classroom norms, rules and activities, and otherwise occupy a responsible role in the school community.

The above experiences obviously overlap to a considerable degree in classroom practices. Nevertheless, it is pedagogically useful to describe the CDP program in terms of five theoretically consistent and mutually reinforcing "components" (Solomon et al., 1985). Two of these components, *Cooperative Learning* and *Developmental Discipline*, incorporate all of the above aspects and

are pervasively integrated into the school day. They are therefore seen as the central elements of the program. The remaining components — *Promoting Social Understanding, Helping Activities,* and *Highlighting Prosocial Values* — play a more limited, supportive role in the program.

PROGRAM FEATURES

Instructional Approach and Hypothesized Effects

The CDP program is based on the premises that children's prosocial characteristics can best be enhanced in a milieu where children: (a) see themselves as part of a caring and just community in which prosocial values are emphasized and exemplified; (b) have opportunities to both act on and think about those values; and (c) have opportunities to gain an understanding of the feelings, situations and perspectives of others. With intensive guidance and assistance from CDP staff, and with support from parents and school administrators, teachers have attempted to create and maintain this milieu in their classrooms through the use of the five program components. Numerous school activities and events during the year (including "buddies" programs, cross-age tutoring programs, "family film nights," community service and helping activities, and a "family homework" program in which students work together with their parents on various joint activities) help to provide consistent and supportive school-wide and home environments. Following is a description of the five components of the classroom program:

Helping activities. Children are encouraged to give help to others, and are given opportunities to do so: through doing chores and helping their classmates, participating in school-wide projects that involve helping younger students, and participating in occasional community service activities such as providing help to needy families at holiday times. Teachers are encouraged to stress the importance and value of helping others in general and as part of these activities.

Highlighting prosocial values. Central prosocial values in addition to helping are also demonstrated, explained and emphasized. Extensive use is made of literature and other media in which such values as kindness, living up to one's responsibilities, or truthfulness are central elements. Children's books, selected for literary quality and relevance to these prosocial values, are provided to the teachers. The teachers are also encouraged to point out naturally-occurring prosocial behavior, to emphasize the importance of such behavior, and to help the children understand the values exemplified.

Promoting social understanding. Literature is also an important vehicle for helping children develop their understanding of other people. Stories that explore the motives, feelings, needs, and perceptions of various characters are read in the classroom, sometimes aloud and sometimes silently. Teachers follow up the reading with writing, art, and discussion activities to help the children comprehend the various perspectives represented in the stories. To emphasize the importance of understanding other people in all settings, not just the classroom, many books are used that portray people of diverse cultures, ages, situations, and roles in the community. Class meetings and

discussions of various classroom events, including group processes during cooperative activities, are also used to help students better understand themselves, their teachers, and their classmates.

Developmental discipline. Current approaches to classroom management and student discipline differ in numerous respects--some make heavy use of points and/or rewards, while others put more emphasis on intrinsic motivators. We have developed a management system that stresses intrinsic motivation for prosocial as well as academic activities. We ask teachers to assume that children in general are well-intentioned and motivated to please others and to learn the values of their social system, but lacking in self-control, conceptual and behavioral skills and understanding. To attain long-range socialization goals and short-term classroom compliance, children are given active roles in helping to create a caring, just, and productive classroom community, and are allowed sufficient autonomy to practice making responsible choices.

This system is characterized more by an attitude than a series of techniques, an attitude of trust in the good will of children and a sense of responsibility for maintaining the social supports necessary for children to be able to function well. At the same time, however, several techniques are useful for providing this social support and maintaining this attitude. They include: building a personal bond with each child and helping the children build bonds with each other; involving children in establishing class norms and rules; teaching children techniques for self-control and conflict resolution; increasing children's awareness of particular values in situations where those values are especially relevant; using non-punitive techniques when external control is necessary; helping children see the reasons for doing the tasks they are asked to perform; adjusting demands to children's abilities; and taking a teaching and problem-solving approach to misbehavior. Developmental Discipline avoids using promises of rewards or threats of punishments to control children's behavior. It is a system whose primary goal is socializing children, who are seen as active, willing partners in their socialization.

Cooperative learning. Although in recent years much of the interest in Cooperative Learning has resulted from its demonstrated effects on academic achievement (as reviewed by Slavin, 1983; Johnson, Maruyama, Johnson, Nelson & Skon, 1981; Sharan, 1980), cooperative approaches to education have their roots in attempts to understand and influence social attitudes and behaviors (Allport, 1954; Deutsch, 1949; Dewey, 1916; Cook, 1978), and most current cooperative learning systems also embrace social goals, such as improving interpersonal or intergroup relations or preparing for democratic citizenship (Aronson, 1978; Cohen, 1987; Graves & Graves, 1985; Johnson & Johnson, 1975; Sharan & Sharan, 1976; Slavin & Hansell, 1983). In the Child Development Project, the social outcomes of Cooperative Learning are valued in themselves, and not merely because they can help to promote academic growth.

Our approach to cooperative group activities is designed both to achieve explicit social and academic goals and to be consistent with our view of the developing nature of the child. It has been derived, in part, from the approaches of Johnson and Johnson (1975) and of Cohen (1987), but diverges from each in significant ways. Like the Johnsons, we stress the importance of building interdependence into each cooperative activity and of directly

teaching the interpersonal skills needed for successful cooperation. Our approach differs from theirs in that it more directly and explicitly fosters children's intrinsic task motivation, emphasizes the acquisition and application of general social values (in addition to more specific social skills) in the group situation, and avoids both individual and group grades or rewards for the group's social or academic performance. Our approach is similar to that of Cohen in its emphasis on intrinsic motivation and the use of roles to counter status differences within groups, but differs in that its tasks are more explicitly differentiated across grades according to developmental considerations, and are developed to meet more specific interaction and interdependence requirements. When cooperative activities are done in our system, in contrast to that of Cohen, all groups in a class usually work on the same task, with the members of each group working toward a single group product.

In addition to providing varied and powerful learning opportunities, cooperative activities in the CDP approach are used to give children: (a) an awareness of the importance of prosocial values--specifically fairness, consideration, helpfulness, and social responsibility; (b) opportunities to act in accord with those values; (c) the experience of being part of a caring, just, and responsible group; (d) opportunities to understand and consider the perspectives of others; and (e) opportunities to reflect on their own behavior and on the expression of values in the group situation. Cooperative activities provide a kind of "learning laboratory" for practicing and experiencing prosocial values and social skills, while also pursuing academic content.

The Child Development Project tries to promote a cooperative orientation in the classroom as a whole, not limited to the times when the students are organized into cooperative learning groups. We believe that this consistency is important, particularly for the attainment of the project's social objectives, because it allows the experiences children have in cooperative groups and those they have during other aspects of classroom life to reinforce and supplement each other (rather than undermine or contradict each other, as might be the case if, for example, children were given much autonomy when in cooperative groups, but little during other classroom activities). The whole program is thus designed to provide children with mutually-supportive experiences in autonomy, self-direction, community participation, responsible decision-making, being helpful to others, learning to understand and appreciate others, and learning to collaborate with others. It is our hope that these experiences will help children in program classrooms learn to feel commitment to, and responsibility for the groups in which they participate, and for the classrooms in which these groups are embedded as well.

Staff Development Activities

Because this program is complex and represents a fundamental departure from most current teaching approaches, helping teachers to master it and make it an integral part of their teaching turned out to be a very ambitious task. We worked with a variety of teachers; some had natural teaching styles and beliefs that were quite consistent with the program, others had initial styles and

beliefs that were quite inconsistent with it. The teachers also varied in their willingness to try the program and in their ability to implement it successfully.

Teachers at each cohort grade were introduced to the program through a one-day workshop during the spring before their year with the cohort children and a week-long workshop late in the summer. Throughout their cohort year, the teachers at the three program schools attended all-day workshops approximately once a month. "Coaching" arrangements were also employed whereby each program teacher's classroom would be visited about once a week by a designated project staff member who would later discuss with the teacher what had been observed vis-a-vis program implementation.

Curriculum

Comprehensive curricula have been developed for grades K through 6 in the areas of cooperative learning and literature. These include sequences of activities and teacher guides. These are not considered to be "stand alone" materials, but need to be accompanied by extensive training, consisting of workshops, ongoing consultation, and coaching.

SIGNIFICANCE OF PROGRAM DESIGN AS COMPARED TO SIMILAR PROGRAMS

Innovativeness

Although the separate elements of the program are not unique to this project, this project represents the first attempt of which we are aware to combine them into a pervasive and comprehensive program. It is also unusual among programs concerned with promoting children's social development in its thorough grounding in relevant theories and knowledge in the areas of child social development, socialization, and the determinants of intrinsic motivation. We know of no similar programs in the field of elementary education. Programs that have been developed that have some of the same goals tend to be directed at older children, and to be less comprehensive and less well integrated with academics.

Cost Effectiveness

This program focuses on outcomes that are important but not easily measurable (e.g., interpersonal concern and understanding, social problem-solving skills, democratic values). We are therefore unable to assign a specific cost per unit of gain in outcome. Although we believe that the program will also have positive effects on academic outcomes (particularly with respect to higher-order cognitive skills and related motivations), we have so far evaluated the program only in a district with uniformly high student achievement levels (thus with little room for differentiation between students who are and are not participating in the program). The program is currently under way in a more heterogeneous district where effects on achievement are expected, and will be carefully examined.

POTENTIAL FOR TRANSPORTABILITY

Settings and Participants

The program was developed and evaluated in a school district in a middle- to upper-middle-class suburban community in the San Francisco Bay area. Families in this district are mostly Caucasian, and mean student achievement test levels tend to be in the top 10%. The program is now being adopted in a second district, which is much more heterogeneous. The program has been used with students in grades K through 6; and accompanying student materials and teacher training materials have been developed for each grade level. The teacher training materials are designed to be used only in conjunction with workshops, coaching, and other training activities.

We believe that all aspects of the program are potentially usable in a wide variety of educational settings, but as yet have no data to demonstrate that.

User Requirements

In order to implement this program effectively, a district must make it a strong priority. It is necessary to allocate significant time on the part of central office administrative personnel and inservice training staff to project oversight, training and monitoring. In our efforts thus far, teachers and principals in participating schools have begun training with a one-week summer training institute, and continued with monthly group meetings with training staff, and weekly meetings with (and class visitations by) coaches. We have been experimenting with procedures whereby teachers pair up for peer coaching, which could be a way to reduce some of the costs.

Costs for Implementation and Operation

The costs involved in conducting the program thus far have been high, but have included the costs of initially developing the program (including experimentation with various approaches to training) and of conducting an extensive and comprehensive evaluation. Thus, we can only roughly estimate what the costs will be when school districts establish the program within their regular staff development activities. These would include staff costs for training and workshop presentations and participation, release time for teachers to allow them to participate in the monthly general meetings and the weekly individual meetings with coaches. In addition to these staff costs, there are also costs for the materials, including curriculum sets, books, and teacher manuals. Our judgment is that a district would need to allocate from $50,000 to $100,000 annually to begin the program in two or three schools and later to gradually extend it to other schools in the district.

EVALUATION

Design

A cross-sectional assessment of children's social attitudes, motives, perceptions and behavior was conducted with a random sample of children in grades K, 2, 4 and 6 the spring before the start of the program in a group of three Program schools and three Comparison schools in the same district. The composition of the two groups of schools was determined at the start of the project when, after discussions with principals and staff at most of the elementary school in the district, the six schools where the strongest interest had been expressed were invited, and agreed, to participate in the project. The six schools were divided into two groups of three that were similar in terms of community socioeconomic level, student achievement, school size, and principal and faculty experience. A random selection procedure was then used to determine which group would implement the program and which would constitute the comparison group. The program has been provided in successive grades each year to a cohort of children who began kindergarten in the fall of 1982 and are completing sixth grade in the spring of 1989.

During the spring of each year in which the program has been in operation, students in the cohort grades in all six schools have participated in small-group tasks, individual interviews, and (students in third grade and above) have filled out questionnaires. Cohort-grade classrooms in all six schools have also been observed systematically each year. These data collection efforts have been designed to provide evidence about: (a) program implementation during each year of the program (classroom observations); (b) behavioral effects of the program (observations of children in the classrooms, on the playgrounds, and in structured small-group tasks); and (c) motivational, attitudinal, and cognitive effects of the program (interviews and questionnaires).

All students in the cohort grades who were given parental permission have participated in the above activities--ranging from 85% to 100% of the students in the various classrooms. There have been a total of 13 or 14 classrooms involved each year, and from 320 to 360 students in the six schools. Because we had such a high rate of participation, we believe that these students can be considered representative of those in similar middle-class suburban school districts.

Instruments/Procedures

Measures of program implementation in classrooms. Two classroom observation instruments were developed for use in this study, derived in part from instruments used in two previous studies (Solomon & Kendall, 1979; Serow & Solomon, 1979). One of these instruments was a "sign" system, the other a rating system. When using the sign system instrument, the observer would watch the class for a two-minute period and then check each category that had been observed during the period. The observers alternated periods in which they focused on the teacher and those in which they focused on small groups of

students, observing eight periods of each type during a visit, which lasted about two hours. Each classroom was visited for observation eight times during the year.

The rating form was filled out by the observer, away from the classroom, immediately after the completion of a two-hour observation visit. The observer used the form to make global ratings of various items concerning teacher behavior, classroom atmosphere, classroom activities, and student behavior.

Both instruments focused on aspects of teacher behavior and classroom activities that were expected to promote the development of children's prosocial behavior, and, in particular, on the five components of the program. The items were designed in such a way that they could be observed in the comparison as well as the program classrooms, if and when they occurred. Both instruments also included items representing students' social behavior in the classroom.

Because the forms are long and fairly complex (particularly the Sign System) and involve the mastery of a detailed observation manual (Solomon, Watson and Deer, 1988), a fairly long training period is required. Training involves extensive discussion of the manual definitions, the use of videotapes of classrooms for examples of the various categories and for initial trials with the instruments, and visits to numerous classrooms to become familiar with the use of the forms and to develop reliability and consistency.

Measures from the two instruments are combined to derive scores that represent each of the five program components, plus four measures of student social behavior in the classroom. We have assessed the reliability of the measures of each of the program component scores and the student classroom behavior with indices of internal consistency (alpha) and with intraclass correlations (based on independent visits to classrooms by different observers). Mean alpha coefficients, across several data sets and grade levels, range from .54 to .96 (with an overall mean of .77); mean intraclass correlations range from .30 to .77 (with an overall mean of .57). Some evidence of validity is provided by correlations of the observation-based measures of program implementation with items from questionnaires administered to the teachers each spring. Thus, the observed *Cooperative Activities* measure correlates .43 ($p<.01$) with teachers' reports of students working on group projects; the measure of *Developmental Discipline* correlates .38 ($p<.01$) with teachers' reports of students solving their own minor problems; the measure of the *Social Understanding* component correlates .28 ($p<.05$) with the teachers' reports of social understanding discussions in the class; and the *Helping Activities* measure correlates .65 ($p<.001$) with teachers' reports of students getting help from one another in groups.

Measures of student attitudes, motives and perceptions. Student interviews and questionnaires have included many measures developed for this project, and some adapted or taken from the work of others. The interviews generally involve coding of open-ended responses to standard questions about hypothetical situations. Inter-coder agreement on the various measures has ranged between .75 and .98. Variables measured include: *conflict resolution strategy* (alpha = .78), *social understanding* (alpha = .75), *empathy* (assessed

from facial expressiveness; alpha = .60), *helping values* (alpha = .57), *helping preferences* (alpha = .63), *reaction to transgressions* (alphas for 2 subscales = .63, .54), *importance of prosocial characteristics* (alpha = .59), and *social problem-solving* (from Elias, Larcen, Zlotlow, & Chinsky, 1978; alpha = .51). Questionnaire measures have included *concern for others* (alpha = .68), *motive to help others learn* (alpha = .81), *empathy* (adapted from Bryant, 1982; alpha = .75), *democratic values* (alpha = .65), *self-esteem* (alpha = .80), *social competence* (alpha = .83), *enjoyment of class* (alpha = .73), *liking for school* (alpha = .78), *preference for challenging tasks* (alpha = .66), and *academic motivation* (alpha = .48). Although we have no direct evidence of validity, age and sex differences obtained for many of these measures in a cross-sectional assessment of children in grades K, 2, 4 and 6 generally showed trends consistent with expectations, with girls generally scoring higher on prosocial measures, and scores increasing with age for most measures, particularly those that involve social or cognitive skill (such as *conflict resolution, social understanding,* and *reaction to transgression*).

Measures of children's interpersonal behavior. Aside from the measures of children's behavior in the classroom, described above, two sets of small-group tasks were devised to elicit such behavior in relatively controlled and standard situations.

One set of tasks was designed for children in four-person groups. Children's behavior was observed (and videotaped) as they performed a *dart-board* task (with only three "darts" for the four to use), a *group construction* task (with multi-colored parquetry blocks), a *tower-building* task (with a built-in conflict between personal achievement and group success), a *chain-building* task (with a similar conflict), a *discussion task* (in which the group was asked to reach a consensus), and a *reward-distribution* task (in which they were given an unequally-divisible number of rewards to divide). Various measures were derived from "act codes" and ratings of the groups' behaviors during these tasks. Intercoder percent agreement for the act tallies has averaged 80%, while inter-coder correlations for the rating scales as averaged .92. The measures include *dart board coordination and equality* (alpha =. 83), *construction spontaneous collaboration* (alpha = .81), *construction smoothness of collaboration* (alpha = .68), *chain-building group orientation* (alpha = .82), *discussion engagement and equality* (alpha = .72), *length and depth of discussion* (alpha = .60), *distribution group orientation and equality* (alpha = .61). When grade and sex differences from the cross-sectional assessment were examined for these measures, a generally steady progresssion with grade was found, with prosocial behavior increasing for higher grades. There is also a small but consistent tendency for girls' scores to be more prosocial than boys'. These findings can be considered indications of the validity of these measures.

A set of *dyadic tasks* has also been developed and used with children in first and third grades, for assessing other aspects of their interpersonal behavior. These included a *free play* task, two *referential communication* tasks (in which one child gave verbal directions to help a second child reproduce a model which the second child could not see), two *helping and scarce resource* tasks (which assessed one child's willingness to help the other, who had been given a more difficult task; the inclination to share an attractive toy to which one child was given initial access; and the strategies used for gaining

access to that toy), and a *bridge-crossing* task (a variant of a prisoner's dilemma game). Measures derived from the observations of children's behavior in these tasks include *affiliativeness* (alpha = .81), *helping in helping tasks* (alpha = .96), *prosocial behavior in scarce resource task* (alpha = .70), *proportion of prosocial access strategies*, *negative behavior in referential communication tasks* (alpha = .55), *supportiveness in referential communication tasks* (alpha = .53), *clarity/responsiveness in referential communication tasks* (alpha = .78), *competitiveness in bridge-crossing* (alpha =.32), *negative behavior in bridge-crossing* (alpha =.80), *aiming for equality in bridge-crossing* (alpha =.84), *outcome equality in bridge-crossing*, and *competitiveness of moves in bridge-crossing* (the last two measures involve simply counting moves and "delivered packages," thus no alpha coefficient can be computed). Inter-observer correlations for these measures ranged between .54 and .98 (with the exception of *negative behavior in bridge-crossing*, which was close to zero). Excluding this measure, the average inter-observer correlation is .76. The grade and sex differences obtained with these measures do not form clearly interpretable patterns, and thus cannot be said to provide evidence either for or against the validity of these measures.

Baseline (Cross-Sectional) Assessment

An initial baseline assessment of children's social attitudes, motives, and behavior conducted in the year prior to the start of the CDP program did not reveal any large or consistent differences between children in the program and comparison schools, indicating that the two school populations were quite comparable before the start of the program. (We did not assess teachers' classroom practice or childrens' classroom behavior before the start of the program.)

Assessment of Program Implementation

Our primary measures of program implementation were derived from an extensive series of structured observations conducted each year with the observation instruments described above. A total of 67 classrooms were observed during the first five years of the project: 37 in the program schools and 30 in the comparison schools. Observers, who were "blind" to the program status of the schools, visited each classroom (at unannounced times) for a total of 16 hours (eight separate two-hour visits) each year. Scores derived from these instruments that represent the degree of implementation of each of the five program components across the full five years are presented in Figure 1. The scores for each component were significantly higher in the program schools, indicating that, as a group, the classrooms in the program schools could be clearly differentiated from those in the comparison schools.

Effects of the Program

As indicated above, a broad range of student outcomes has been assessed each year, through interviews, questionnaires, and observations in classrooms, on the playgrounds, and in structured task sessions. A number of variables from each of these sources have shown scattered differences between program and

comparison school children--generally favoring the former--but most of these differences have not been strong enough or consistent enough across years to warrant definitive conclusions. A few variables, however, have shown clear and strong differences that were maintained consistently across years. These are described below:

Interpersonal behavior in the classroom. The classroom observers spent part of their time observing student interpersonal behavior in the classroom. Three scales were derived from these observations: *Proportion of Positive Behavior, Spontaneous Prosocial Behavior,* and *Harmoniousness*. Analyses of these data have consistently indicated that student behavior is more positive in program than in comparison classrooms.

The strongest program effect was found for *Spontaneous Prosocial Behavior* (a measure based on observers' ratings of students' spontaneous helpfulness, concern for others, and cooperation). A significant program vs. comparison difference was also found for *Harmoniousness* (based on ratings of harmoniousness, apparent interest and involvement, and apparent student happiness). These findings are shown in Figure 2. Within-year analyses showed that the findings for *Spontaneous Prosocial Behavior* were quite consistent: students in the program classrooms scored significantly higher on this measure than those in the comparison classrooms in four out of the five years.

Responses to questions asked in the fourth-grade student questionnaire and in the yearly teacher questionnaires have provided some corroborative evidence that student interpersonal behavior is more positive in program than in comparison classrooms. Program students' responses indicated that they saw their classmates as more supportive (e.g., being willing to go out of their way to help others, working together to solve problems, caring about other students' work as well as their own) than did comparison students (prog. & comp. $\underline{M}$s=1.99 & 1.85, respectively; $\underline{F}[1,290]=6.63$, $\underline{p}<.01$). The program teachers also have reported more positive behavior among their students than have the comparison teachers (with respective program and comparison means, across the four years, of 3.74 and 3.47), although this difference is not statistically significant.

Social problem-solving. Two different measures of *social problem-solving* included in the child interviews have shown strong and consistent program effects. One measure, administered as part of the kindergarten, second, and fourth grade interviews, presented the children with hypothetical interpersonal conflict situations and asked them to state how the problem could be resolved. The other measure, given to the children in first and third grade, was adapted from one developed by Elias (Elias, Larcen, Zlotlow, & Chinsky, 1978), and asked about possible solutions to hypothetical problems concerned with gaining access to an attractive toy and of gaining entry into a group.

A single score was derived from the conflict responses, taking into account both the degree to which the solution showed consideration of both persons' needs and the content of the suggested solutions (with "prosocial" solutions given the highest weights). The mean conflict resolution scores in grades K, 2 and 4, for program and comparison children, are shown in Figure 3. While the scores increase with increasing grade for both groups of schools, the increase

is greater for the program school children. There was no difference between groups at kindergarten, a substantial (and significant) difference favoring the program children at 2nd grade, and a still greater difference at 4th grade.

The results obtained with the Elias measure were similar. There were four major measures: *Interpersonal Sensitivity* (referring to the child's understanding of characters' situations in the hypothetical problem), *Problem Resolution Strategy* (referring to the content of the proposed solution, with more reasonable and "prosocial" strategies given greater weight), *Outcome Expectancy* (a combination of the expectation that the outcome will be favorable and that it will result from the exercise of personal initiative), and *Means-Ends Cognitive Problem-Solving* (referring to the complexity and sophistication of the child's suggested steps toward problem resolution). The latter three of these showed significant differences favoring the program school children in first grade (with respective program and comparison means of 4.88 & 4.59, 4.69 & 4.31, and .46 & .27), while the first and fourth did so at third grade (with means of 3.07 & 2.77 and .70 & .52)--all differences significant at $p<.01$ or better.

Democratic values. Several findings have indicated a greater concern for democratic values on the part of the program school children. On the student questionnaire administered in third grade, program children scored significantly higher (prog. & comp. Ms= 3.26 & 2.99, F=9.44, $p<.01$) in one aspect of democratic values--*Assertion Responsibility* (the responsibility to state one's position, even if it seems unlikely to prevail). With a similar questionnaire given the following year, the program children scored higher than the comparison children on the same measure of *Assertion Responsibility* (Ms=3.33 & 3.14, F=6.44, $p<.05$), and also on a measure of *Equality of Participation and Representation* (Ms=3.19 & 2.92, F=16.66, $p<.001$), and on *Total Democratic Values* (Ms=3.31 & 3.12, F=15.30, $p<.001$)--a measure combining *Assertion Responsibility* and *Equality of Participation/Representation* with a consistent and marginally-significant [Ms=3.40 & 3.30, F=2.48, $p<.12$] measure of *Willingness to Compromise*.

Greater concern for equality of participation and equality of outcomes on the part of program students was also reflected in observers' ratings of children's behavior during several of the small group tasks administered each spring. This occurred with respect to free-play behavior during a four-person dart-board task in the kindergarten assessment ($p < .05$), in both the discussion task described above and a prize distribution task in the second grade assessment ($p < .10$), and in a mixed-motive (cooperative-competitive) "bridge-crossing" dyadic task at third grade ($p < .05$).

Academic achievement. Scores on the California Achievement Test, administered to all fourth-graders by the school district, revealed generally high scores which were undifferentiated between program and comparison children in the fourth grade. This held both for all the children enrolled in fourth grade that year and for just the fourth-graders who had been with the project since kindergarten (165 children). Similar achievement tests administered in the same schools the year before the start of the project also showed generally high scores, with no differences between these two sets of schools, either at fourth or sixth grade. We conclude that pursuit of the CDP program did not impede academic progress, as indexed by standard achievement tests.

INTERPRETATION AND DISCUSSION OF RESULTS

The CDP program was conceived as a broad-ranging attempt to influence children's social development. It was expected that the program experience would have effects on children's prosocial motives, attitudes, skills, inclinations, perceptions and behaviors. The general model for these expectations was presented in Solomon et al (1985). In order to assess effects in all these areas, a similarly comprehensive set of measures and procedures was developed and/or adapted.

The analyses conducted thus far have revealed strong and consistent program effects in several of the many areas assessed; these have been the focus of the data presentation. To summarize: (a) there has been clear observational evidence that the program was more closely approximated in the program than the comparison school classrooms; (b) data from teacher questionnaires, student questionnaires and student interviews all corroborated observational evidence of greater provision of student autonomy and participation in classroom decision-making in the program classrooms; (c) students' interpersonal behavior was more prosocial in the program than the comparison school classrooms (this was also corroborated by student questionnaire responses, and was independent of group differences in either general teacher competence or the frequency of cooperative activities in the classroom); (d) students' *Social Problem-Solving Skill* (assessed through interviews) was strongly enhanced by the program (and consistently, across years); and (e) students' endorsement of democratic values (particularly *Assertion Responsibility* and *Concern for Equality*) appeared to be increased by the program experience.

The overall impression conveyed by this combination of effects is that participation in the program enhanced both social competence and concern for others in students. Program students have consistently demonstrated a better understanding of common interpersonal problems, and a more thoughtful and sophisticated approach to solving such problems than comparison students. Their approach to problem resolution also was more prosocial; program students were more likely than comparison students to consider the other person's needs as well as their own, and to suggest a mutually beneficial solution to the problem. Similarly, while program students were more likely than comparison students to feel that it is important to state one's own position in a disagreement, they also were more concerned about fairness and equality. These findings, we believe, reflect a *self-other balance*: an inclination to be concerned about the needs of others without discounting one's own needs, and to achieve solutions that optimize both in situations where they conflict.

Attribution of Effects to Program

Because the two school populations were demonstrated to be equivalent on all relevant measures before the start of the program, and because the program vs. comparison differences in the longitudinal samples are in some instances stronger or broader after more years of program experience (e.g., *conflict resolution, social problem-solving, democratic values*), it is reasonable to attribute these differences to the program experience. No alternative

hypothesis is evident: maturation, history, assessment experience, and attrition are all equivalent for the two groups; assignment of the school groups to condition was made on a random basis.

SIGNIFICANCE OF RESULTS

Relationship of Results to Need

We have demonstrated strong effects of this program on students' classroom behavior, social problem-solving skills, and democratic values. Until we collect longer-term follow-up data, we will not know to what degree these effects will persist and, perhaps, broaden. Ultimate conclusions about the effects of the program on interpersonal considerateness, responsibility and citizenship must wait for such data. We are unclear, in particular, about the degree to which the maintenance of program effects will depend on children being in future environments that are consistent, or at least compatible, with those that they experienced in the "program" schools. It seems clear, however, that the program does produce effects on students while they are in elementary school, and it does not seem unlikely that these will in many cases form the basis for continuing prosocial development.

Comparison of Results of Other Programs

We know of no other elementary school programs that have attempted to achieve the same or similar results.

REFERENCES

Allport, G. (1954). The nature of prejudice. Reading, Mass.: Addison-Wesley.

Aronson, E. (1978). The Jigsaw classroom. Beverly Hills, CA: Sage.

Bakan, D. (1966). The duality of existence: Isolation and communion in western man. Boston: Beacon Press.

Bandura, A. (In press). Social cognitive theory of moral thought and action. In: W. M. Kurtines & J. L. Gewirtz (Eds.) Moral behavior and development: advances in theory, research and application, Vol. 1. Hillside, N.J.: Erlbaum.

Brown, D., & Solomon, D. (1983). A model for prosocial learning: An in-progress field study. In D. Bridgman (Ed.), The nature of prosocial development. (pp. 273-307). New York: Academic Press.

Bryant, B. K. (1982). An index of empathy for children and adolescents. Child Development, 53, 413-425.

Cohen, E. G. (1987). Designing group work: Strategies for the heterogeneous classroom. New York: Teachers College Press.

Coles, R. (1977). Children of crisis: Vol. 5. The privileged ones: The well-off and rich in America. Boston: Little, Brown.

Cook, S. W. (1978). Interpersonal and attitudinal outcomes of cooperating interracial groups. Journal of Research and Development in Education, 12, 97-113.

Deutsch, M. (1949). A theory of cooperation and competition. Human Relations, 2, 129-152.

Dewey, J. (1916). Democracy and education. New York: Macmillan.

Elias, M. J., Larcen, S. W., Zlotlow, S. F., & Chinsky, J. M. (1978, August). An innovative measure of children's cognitions in problematic interpersonal situations. Paper presented at meeting of American Psychological Association, Toronto.

Gilligan, C. (1982). In a different voice. Cambridge, MA: Harvard University Press.

Graves, N. B., & Graves, T. D. (1985). Creating a cooperative learning environment: An ecological approach. In: R. Slavin, S. Sharan, S. Kagan, R. Hertz-Lazarowitz, C. Webb, & R. Schmuck (Eds.), Learning to cooperate, cooperating to learn. New York: Plenum.

Hoffman, M. L. (1978). Empathy, its development and prosocial implications. In C. B. Keasey (Ed.), Nebraska symposium on motivation (Vol. 25). Lincoln: University of Nebraska Press.

Hoffman, M. L. (In press). Empathy development, moral principles, and action. In: W. M. Kurtines & J. L. Gewirtz (Eds.) Moral behavior and development: advances in theory, research and application, Vol. 1. Hillside, N.J.: Erlbaum.

Johnson, D. W., & Johnson, R. T. (1975). Learning together and alone: Cooperation, competition, and individualization. Englewood Cliffs, N.J.: Prentice-Hall.

Johnson, D. W., Maruyama, G., Johnson, R. T., Nelson, D., & Skon, L. (1981). Effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis. Psychological Bulletin, 89, 47-62.

Lasch, C. (1978). The culture of narcissism. New York: W. W. Norton.

Lickona, T. (1977). Creating the just community with children. Theory into Practice, 16, 97-104.

Lickona, T. (In press). Moral development in the elementary school classroom. In: W. M. Kurtines & J. L. Gewirtz (Eds.) Moral behavior and development: advances in theory, research and application, Vol. 1. Hillside, N.J.: Erlbaum.

Mussen, P. H., & Eisenberg-Berg, N. (1977). Roots of caring, sharing and helping. San Francisco: Freeman.

Noddings, N. (1984). Caring. Berkeley, CA: University of California Press.

Perloff, R. (1987). Self-interest and personal responsibility redux. American Psychologist, 42, 3-11.

Rushton, J. P. (1980). Altruism, socialization and society. Englewood Cliffs, NJ: Prentice-Hall.

Ryan, R. M., Connell, J. P., & Deci, E. L. (1985). A motivational analysis of self-determination and self-regulation in education. In C. Ames & R. Ames (Eds.). Research on motivation in education. Vol. 2. The classroom milieu. (pp. 13-51). New York: Academic Press.

Serow, R. C., & Solomon, D. (1979). Classroom climates and students' intergroup behavior. Journal of Educational Psychology, 71, 669-676.

Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. Review of Educational Research, 50, 241-271.

Sharan, S., & Sharan, Y. (1976). Small-group teaching. Englewood Cliffs, N.J.: Educational Technology Publications.

Slavin, R. E. (1983). Cooperative learning. New York: Longmans.

Slavin, R. E., & Hansell, S. (1983). Cooperative learning and intergroup relations: Contact theory in the classroom. In J. Epstein & N. Karweit (Eds.) Friends in school. New York: Academic Press.

Solomon, D., & Kendall, A. J. (1979). Children in classrooms: An investigation of person-environment interaction. New York: Praeger.

Solomon, D., Watson, M. S., Battistich, V., Schaps, E., Tuck, P., Solomon, J., Cooper, C., & Ritchey, W. (1985). A program to promote interpersonal consideration and cooperation in children. In R. Slavin, S. Sharan, S. Kagan, R. Hertz-Lazarowitz, C. Webb, & R. Schmuck (Eds.), Learning to cooperate: cooperating to learn. (pp. 371-401). New York: Plenum.

Solomon, D., Watson, M., & Deer, J. (1988). Classroom observation manual. Developmental Studies Center. (Unpublished).

Spence, J. T. (1985). Achievement American style: The rewards and costs of individualism. American Psychologist, 40, 1285-1295.

Staub, E. (1978). Positive social behavior and morality: Vol. 1. Social and personal influences. New York: Academic Press.

Staub, E. (1979) Positive social behavior and morality (Vol. 2). Socialization and development. New York: Academic Press.

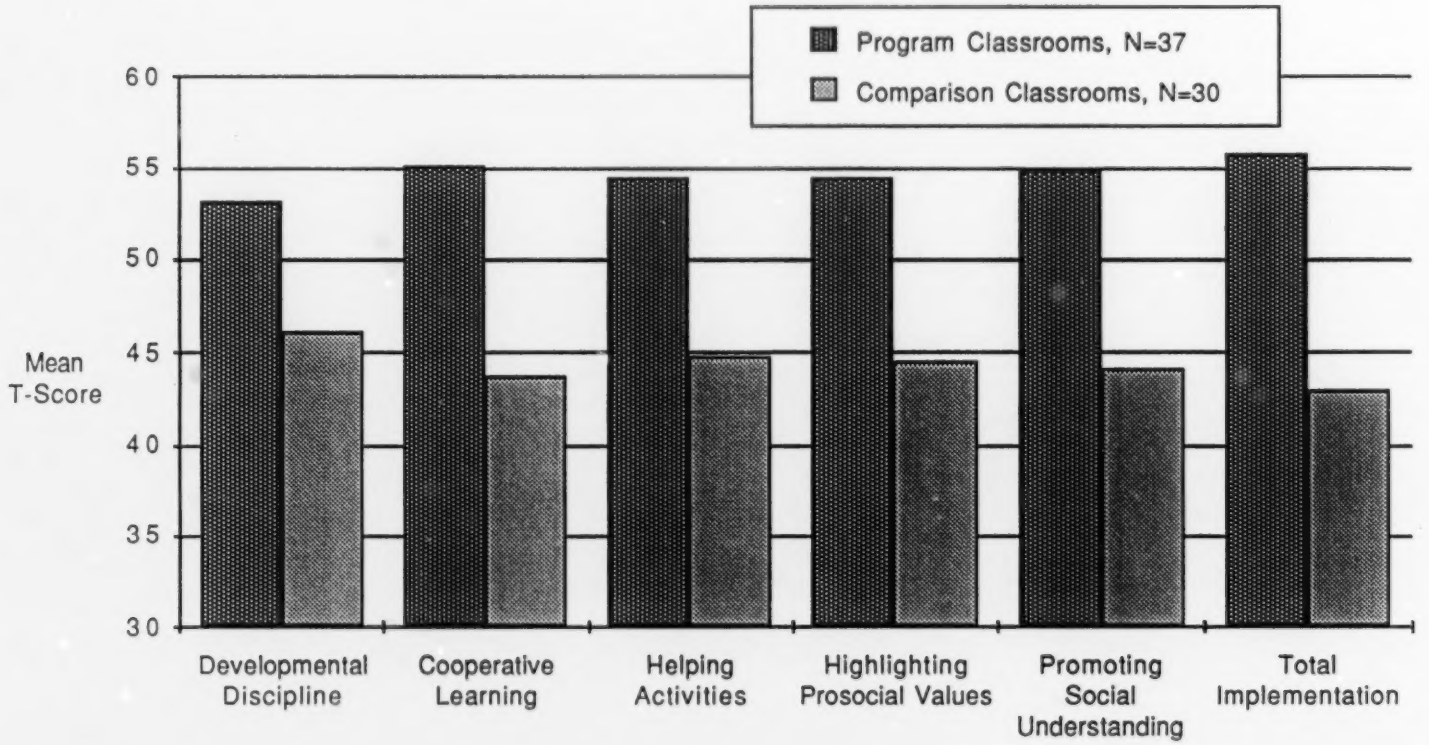

Figure 1. Teachers' Implementation of CDP program components - Grades K-4 combined

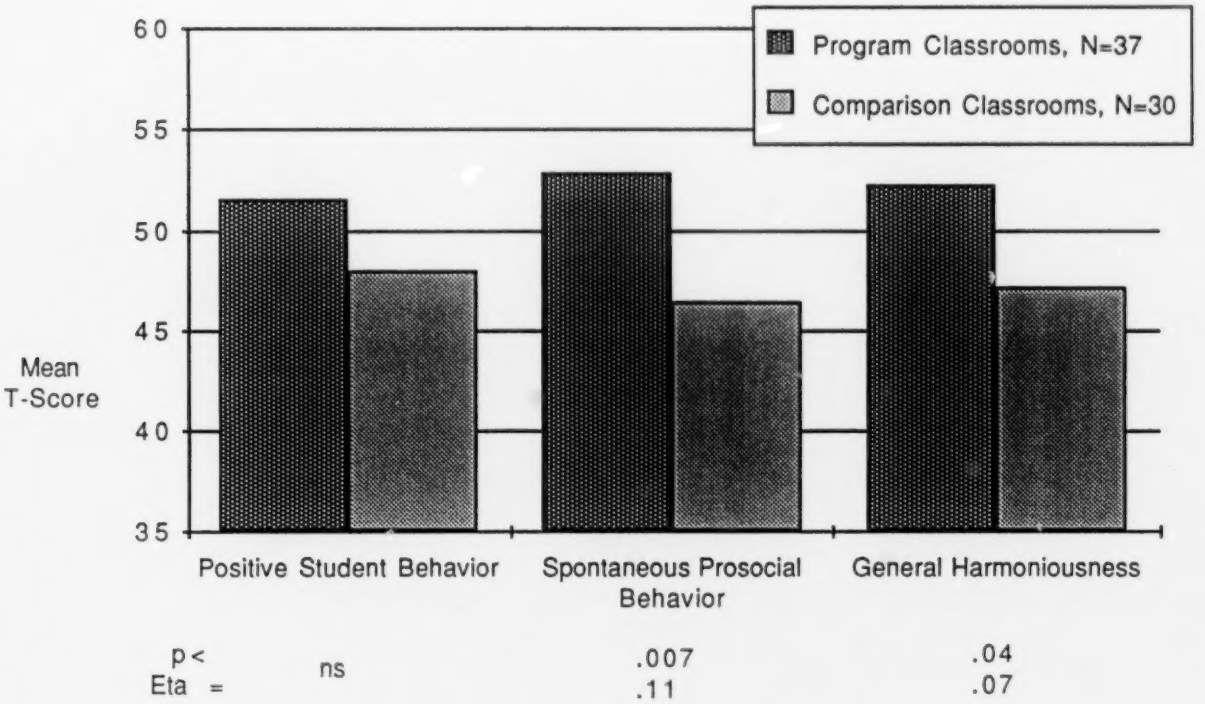

Figure 2. Students' social behavior in program and comparison classrooms - Grades K-4 combined

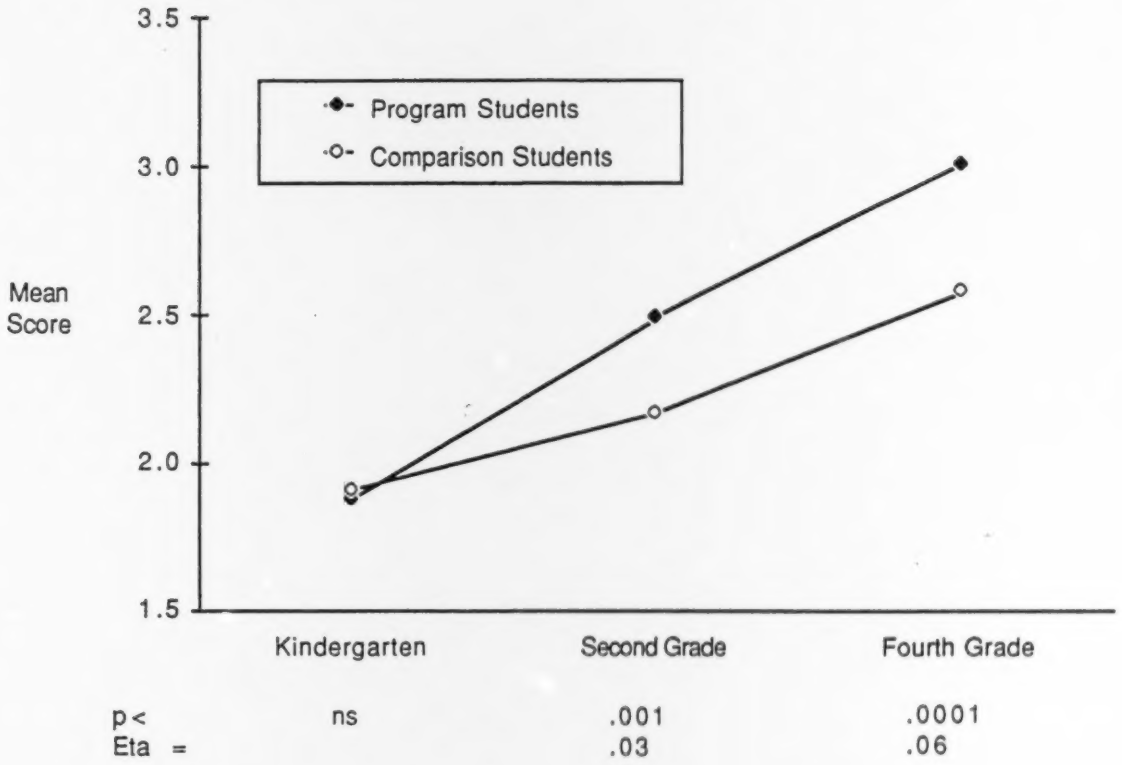

Figure 3. Conflict resolution scores for program and comparison students - Kindergarten, Second, and Fourth grades